

M 4.2, Washington

Origin Time: 2023-10-09 02:21:08 UTC (Sun 19:21:08 local)
Location: 48.0298° N 122.7526° W Depth: 54.9 km
FOR TSUNAMI INFORMATION, SEE: tsunami.gov

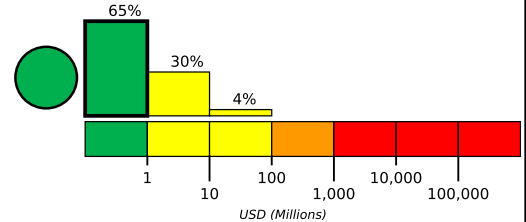
PAGER Version 8

Created: 1 day, 23 hours after earthquake

Estimated Fatalities

Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.

Estimated Economic Losses

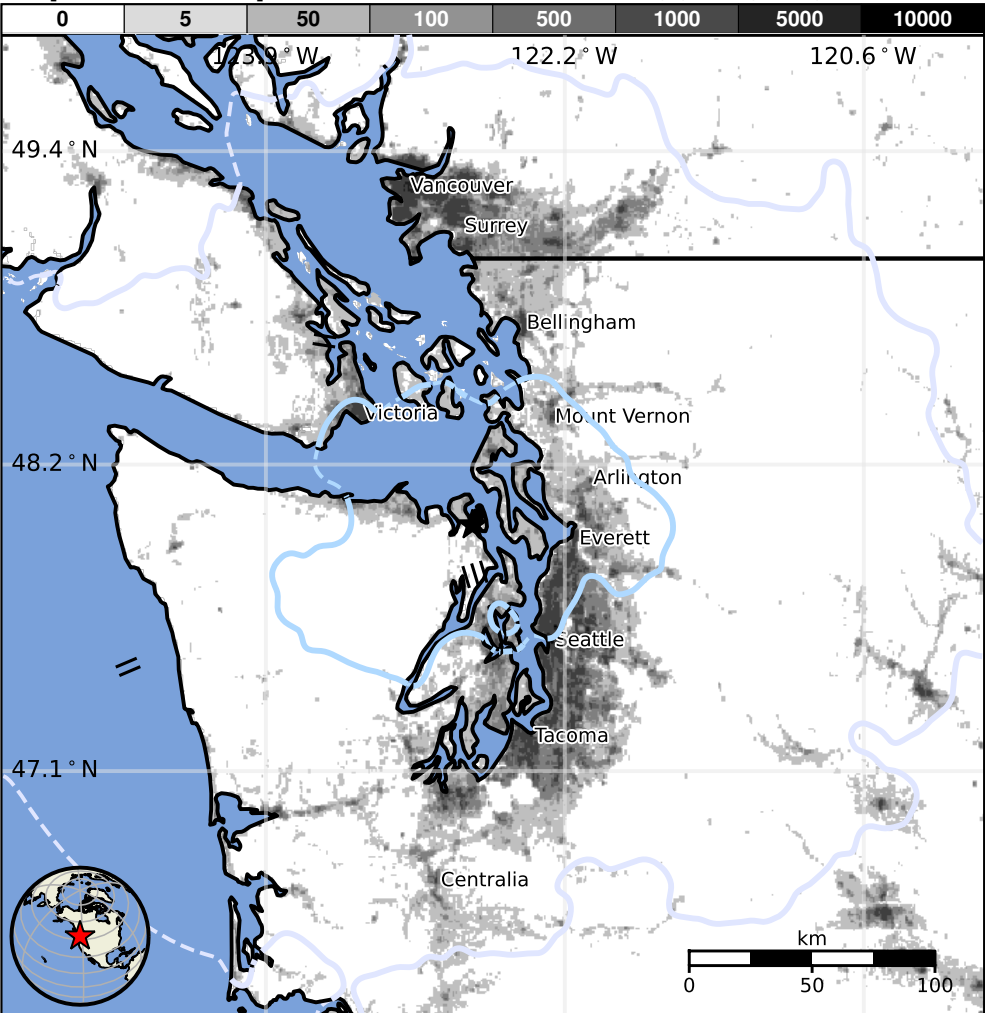


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		410k*	9,189k	3k	0	0	0	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are resistant to earthquake shaking, though vulnerable structures exist. The predominant vulnerable building types are unreinforced brick masonry and reinforced masonry construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1993-03-25	330	5.6	VII(8k)	0
1965-04-29	85	6.5	VIII(131k)	0
1965-04-29	85	6.5	VIII(131k)	7

Recent earthquakes in this area have caused secondary hazards such as landslides and liquefaction that might have contributed to losses.

Selected City Exposure

from GeoNames.org

MMI	City	Population
III	Coupeville	2k
III	Port Ludlow	3k
III	Kingston	2k
III	Langley	1k
III	Camano	14k
III	Freeland	2k
III	Victoria	290k
III	Seattle	609k
II	Olympia	46k
II	Surrey	395k
II	Vancouver	600k

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.
<https://earthquake.usgs.gov/earthquakes/eventpage/uw61965081#pager>

bold cities appear on map.

(k = x1000)

Event ID: uw61965081